BODY REST STRUCTURES

This is a continuation-in-part of application Ser. No. 08/966,024, filed Nov. 7, 1997, now abandoned.

FIELD OF THE INVENTION

The present invention relates to body rest or body support structures. In particular the present invention relates to a structure for supporting the torso of a human body in a prone position in manner that serves to relieve and counter the effects of back strain, and to a head support particularly suited for use in conjunction with the torso support.

BACKGROUND TO THE INVENTION

On a normal rest or sleeping surface such as a flat mattress, air cushion or the like, the user will typically lie in a supine position or in a side position. Occasionally, he or she may lie in a prone position but only for relatively short periods of time because the head must be turned sideways in order to breath properly. However, all of these positions impose some strains on various parts of the body. In other words, while one part of the body is effectively at rest, other parts are inevitably under strain. The head, neck, shoulders, back, hip and legs are never evenly supported at the same time. In an effort to remain comfortable, it may be necessary to change positions at relatively frequent intervals.

Some individuals have difficulty sleeping or resting comfortably on any normal surface. One source of such difficulty can be back pain brought on by accumulated compression forces which stress the spine and which may become more noticeable and aggravating with age. Normal resting or sleeping surfaces are not well adapted for the purpose of relieving such stress.

Various body support or body rest structures have been devised to better enable an individual to lie in a prone position. For example, U.S. Pat. No. 4,665,573 (Fiore) granted on May 19, 1987 discloses a contoured mattress the upper surface of which is contoured to retain the spine of an individual in a natural position whether the individual lies in a supine position, a side position or a prone position. However, while retention of the spine in a natural position may serve to relieve some of the accumulated stress which arises from spinal compression, and to do so with more effect than if the individual simply laid on a conventional flat mattress, the effect is nevertheless limited. Further, it appears that the arms of the individual are constrained to find their support of the surface of the contoured mattress. Such a constraint can impose undesirable strain on an individual's arms, shoulders or back and therefore may not contribute to complete rest. Moreover, when in the prone position, its appears that the individual's face is directed into the surface of the mattress thereby compromising the individual's ability to maintain proper breathing while maintaining proper alignment of the neck and cervical vertebrae of the spine.

As another example, U.S. Pat. No. 5,509,153 (Roschacher) granted on Apr. 23, 1996 discloses a mattress which includes an integrally formed torso support and head support for an individual lying in a prone position on the mattress. The primary purpose is to allow unrestricted breathing while tanning one's back. It is incidentally noted that the shape may serve to relieve people suffering from back ache and rheumatism. The torso support portion is slightly elevated above the head support portion and it is noted by Roschacher that this serves to relieve the cervical column and to avoid the occurrence of neck ache. Also, it serves to relieve breathing problems as noted above in the case of Fiore. However, the mere relief of the cervical column which may serve to avoid the occurrence of neck ache is different from a positive action designed to counter the effect of neck ache which may already exist. It is also indicated by Roschacher that the elevated torso support portion of his design results in an unstiffened naturally bent spinal column thereby avoiding back ache. However, not unlike Fiore, the retention of the spine in a natural position will at best have a limited effect on the accumulated stress which arises from spinal compression.

Accordingly, a primary object of the present invention is to provide a new and improved structure for supporting the torso in a manner which not only permits the relief of but also serves to counter the accumulated stress arising from compression of thoracic and lumbar vertebrae in the spine.

A further object of the present invention is to provide a new and improved body rest structure which includes together with such torso support a new and improved head support that not only permits the relief of but also serves to counter the accumulated stress arising from compression of the cervical vertebrae in the spine.

SUMMARY OF THE INVENTION

In one broad aspect of the present invention, there is provided a body rest structure comprising a torso support for supporting the torso of a human body in a prone position elevated above an underlying surface, such torso support including a first side positionable on the underlying surface, and a second side opposed to said first side. When the first side is positioned on the underlying surface, the second side is defined by a first platform for providing lifting support from below the upper chest and shoulders of the body at a first predetermined elevation above the surface and a second platform for providing cooperating lifting support from below the lumbar vertebrae of the body at a second predetermined elevation above the surface. An open region extends longitudinally between the platforms.

In a preferred embodiment, the upper chest and shoulder support platform has an upper surface which extends longitudinally from a front end of the torso support for a relatively short distance and has a width between opposed longitudinally extending sides which width is sized to permit left and right arms of the body to concurrently extend downwardly from the upper surface over associated ones of the platform sides. A means is provided for holding the upper chest and shoulder support platform with its upper surface at an elevation above the underlying surface which permits the neck and head of the body to tilt forwardly and downwardly from the shoulders to a position where the forward end of the chin of the body is in a tucked position above the underlying surface and below the upper surface. The platform and the holding means may be integrally formed as with a block-like construction.

In the preferred embodiment, the longitudinal extension of the lumbar support platform is limited to permit left and right legs of the body to extend downwardly from the platform and longitudinally rearwardly from the rear end of the torso support. A means is provided for holding the lumbar support platform with its upper surface at an elevation above the underlying surface which permits the knees of the legs of the body to rest on the underlying surface without carrying a substantial part of the weight of the legs above the knees. As in the case of the upper chest and shoulder support platform, the lumbar support platform and its holding means may be integrally formed.

Generally, it is contemplated that the two platforms will have approximately the same elevation. However, such a